

CSCI 604 Distributed Systems Architecture Fall 2014 Term Project

1. Choose a topic related to Distributed Systems Architecture.
 - a. List of topics:
 - i. Mobile Ad-hoc Networks
 - ii. Ubiquitous Computing
 - iii. Virtual Reality Systems
 - iv. Distributed Transactions
 - v. Coordination and Agreement Mechanisms
 - vi. Distributed File Systems
 - vii. Security
 - viii. Replication
 - ix. Peer-to-Peer Systems
 - x. Global State and Time
 - xi. Web Services
 - xii. Distributed Interprocess Communication
 - xiii. Distributed Operating Systems
 - xiv. Distributed Objects and Components
 - xv. Distributed Naming Services
 - xvi. Social Media
 - xvii. Distributed Multi-User Gaming
 - xviii. High-Performance Parallel Computing
 - xix. Distributed Debugging
 - xx. Programming Language Support for Distributed Systems
 - xxi. Privacy-preserving distributed computation
 - xxii. Program matching and transformation tools for system code
 - xxiii. Automated methods for proving program termination and liveness
 - xxiv. Grid Computing, Cloud Computing
 - xxv. Virtualization
 - xxvi. Projects such as SETI@home: technology issues, social issues
 - xxvii. Domain Specific Languages
 - xxviii. Enterprise Integration Patterns
 - xxix. Enterprise Service Bus
 - xxx. Screen-scraping, Mashups

xxxi. Parallelizing single-user or single-system software

You may also topic of your own interest. If your topic is not listed above, you need to consult the instructor before you start your project.

2. Select **at least three research papers** on your topic. One of the papers **must** be a refereed journal paper.
 - a. You can use any search engine to search for papers.
 - b. You can visit ACM/IEEE/Elsevier websites and digital libraries.
 - c. For each of the selected papers, you have to know:
 - i. the source
 - ii. when and where was it published
 - iii. who are the authors
3. Write a research proposal with a description of your topic along with the list of sources and upload your proposal to CitLearn by **September 31**. Upload a copy of each paper with your proposal. A format of the proposal will be uploaded on CitLearn. You have to give a short presentation on your proposal.
4. Read the selected papers thoroughly and try to understand them. (**Very Important**)
5. Do **one** of the following: (**Very Important**)
 - a. Perform an analytical study with the results given in those papers.
 - b. Perform simulation experiments to compare the results given in those papers.
 - c. Build a prototype using one of the solutions given in the paper.
6. Write your research report using the template given on the course website and upload your report to CitLearn by **November 26**.
7. Prepare a PowerPoint presentation on your research.
 - a. The duration of each presentation will be 15 minutes.
 - b. Tentative dates for presentations are **December 3 and December 10**.
8. Term Research Project (25% of the Total Grade)
 - a. Points Distribution:
 - Proposal (5%)
 - Presentation (8%)
 - Report (12%)
9. Project Evaluation Criteria
 - a. Your research paper will be evaluated based on the following criteria.
 - i. Organization
 - ii. Abstract / Introduction
 - iii. Contribution
 - iv. Language / Readability
 - v. References
 - b. Your proposal will be evaluated based on the following criteria.
 - i. Organization

- ii. Outlining the goal of the research
 - iii. Language / Readability
 - iv. References
- c. Your presentation will be evaluated based on the following criteria
 - i. Problem Statement
 - ii. Background
 - iii. Slide Content
 - iv. Slide Design
 - v. Resolution of the Problem
 - vi. Oral Presentation